UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,341	08/31/2001	Zhi Li Guo	JP9-2000-0257-US1	4907

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EXAMINER
NGUYEN, CHAU T

ART UNIT	PAPER NUMBER
2176	

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	09/943,341	GUO ET AL.
Office Action Summary	Examiner	Art Unit	
	Chau Nguyen	2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 March 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>2-7 and 9-22</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>2-7,9-16 and 19-20</u> is/are rejected.

7)☒ Claim(s) <u>17,18,21 and 22</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Amendment, received on 03/09/2005, has been entered. Claims 2-7 and 9-22 are presented for examination.

Allowable Subject Matter

2.   Claims 17-18 and 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4.   Claims 15 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims 15 and 19 contain subject matter "replacing said score sum with said aggregate sum, each said word score with a corresponding said aggregated word score, each said sentence score with a corresponding said aggregated sentence score", which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that

the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 2-7, 9-16 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fein et al. (Fein), US Patent Application Publication No. US 2001/0021938, Kupiec et al. (Kupiec), US Patent No. 6,766,287, and further in view of Weeks, US Patent No. 6,334,132.

7.   As to claims 15 and 19, Fein discloses an automatic method for generating summaries for text documents, comprising steps of:

generating a set of sentences by document discourse analysis and a set of words by morphologic process (pages 2-3, paragraphs [0028]-[0039]);

initializing a word score for each word in the set of words a sentence score for each sentence in the set of sentences and a score sum (page 3, paragraphs [0034]-[0036]);

computing an aggregated word score for said each word according to an aggregate of sentence score of sentences containing said each word (page 3, paragraphs [0029]-[0039]);

computing an aggregated sentence score for said each sentence according to an aggregate of word scores composing said each (page 3, paragraphs [0029]-[0039]);

comparing an aggregate sum with said score sum, said aggregate sum being a sum of aggregated word scores and aggregated sentence scores (page 2, paragraph [0015] and page 3, paragraphs [0035]-[0037]);

if said aggregate sum of is different than said score sum, replacing said score sum with said aggregate sum, each said word score with a corresponding said aggregated word score, each said sentence score with a corresponding said aggregated sentence score and returning to the step of computing the aggregated word score; otherwise (pages 2-3, paragraphs [0028]-[0039] and page 4, paragraph [0045] – page 6, paragraph [0063]);

outputting the top-ranked sentences according to sentence score as a summary of the set of documents, the top-ranked words as the keywords list of the set of documents (Abstract).

Fein discloses generating a set of sentences from a document (pages 2-3, paragraphs [0028]. However, Fein does not explicitly disclose generating a set of

sentences for a set of documents and computing the score for each sentence according to the position of the sentence in a section and a paragraph. Kupiec discloses splitting documents into sentences (Figs 1 and 5, col. 3, lines 1-17 and col. 4, line 63 – col. 5, line 14). Kupiec also discloses assigning summary score for each sentence based on the sentence position within a paragraph (col. 3, line 59 – col. 4, line 9 and Fig. 2). Since Kupiec discloses a system for summarizing documents which is similar to document summarizer of Fein, thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kupiec and Fein to include generating a set of sentences for a set of documents and computing the score for each sentence according to the position of the sentence in a section and a paragraph. Kupiec takes advantage of the structure and wording of various document types to provide faster and more accurate summaries.

Fein and Kupiec, however, do not explicitly disclose the correlation degree between the word and the user information. Weeks discloses a system for summarizing data sets stores target data items and divides the data sets into sections (Abstract and col. 2, lines 1-36). Weeks also discloses the target data items stored by user directly or via a user profile, each section is compared against the target data items and a ranking value is calculated fro each section dependent on the outcome of the comparisons (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Weeks, Fein and Kupiec to include the correlation degree between the word and the user information. An advantage of Weeks'

invention is that it enables a summarizing tool to generate a summary of a data set that includes target data items specified by a user for whom the summary is generated.

8.   As to claims 2 and 9, Fein, Kupiec and Weeks (Fein-Kupiec-Weeks) disclose wherein the step of computing the aggregated word score for said each word comprises:

computing a score for said each word according linguistic salience of said each word to a user profile (Weeks discloses a system for summarizing data sets stores target data items and divides the data sets into sections (Abstract and col. 2, lines 1-36). Weeks also discloses the target data items stored by user directly or via a user profile, each section is compared against the target data items and a ranking value is calculated fro each section dependent on the outcome of the comparisons (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Weeks, Fein and Kupiec to include the correlation degree between the word and the user information. An advantage of Weeks' invention is that it enables a summarizing tool to generate a summary of a data set that includes target data items specified by a user for whom the summary is generated).

9.   As to claims 3 and 10, Fein-Kupiec-Weeks disclose wherein the step of computing the aggregated word score for said each word comprises:

computing a score for said each word according to the similarities among said each word, a query and a provided topic (Weeks discloses a system for summarizing

data sets stores target data items and divides the data sets into sections (Abstract and col. 2, lines 1-36). Weeks also discloses the target data items stored by user directly or via a user profile, each section is compared against the target data items and a ranking value is calculated fro each section dependent on the outcome of the comparisons (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Weeks, Fein and Kupiec to include the correlation degree between the word and the user information. An advantage of Weeks' invention is that it enables a summarizing tool to generate a summary of a data set that includes target data items specified by a user for whom the summary is generated).

10. As to claims 4 and 11, Fein-Kupiec-Weeks disclose wherein the step of computing the aggregated word score for said each word comprises:

computing a score for said each word according to the similarities among said each word and terms in titles of the documents (Fein, pages 2-3, paragraphs [0028]-[0039]).

11. As to claims 5 and 12, Fein-Kupiec-Weeks disclose wherein the step of computing the aggregated word score for said each word comprises:

computing a score for said each word according to a ratio of an occurrence number for said each word in a document to a total occurrence number for said each word in the set of documents (Fein, pages 2-3, paragraphs [0028]-[0039] and Kupiec, Figs 1 and 5, col. 3, lines 1-17 and col. 4, line 63 – col. 5, line 14).

12.   As to claims 6 and 13, Fein-Kupiec-Weeks disclose wherein the step of

computing the aggregated word score for said each word comprises:

computing a score for said each word according to a ratio of a number of

documents including said each word to a total number of documents in the set of

documents (Kupiec, col. 3, line 26 – col. 4, line 24).

13.   As to claims 7 and 14, Fein-Kupiec-Weeks disclose wherein the step of

computing the aggregated word score for said each word comprises:

computing a score for said each word according to a weighted-average of at

least two of:

linguistic salience of said each word to a user profile; similarities among said

each word, a query and a provided topic (Weeks discloses a system for summarizing

data sets stores target data items and divides the data sets into sections (Abstract and

col. 2, lines 1-36). Weeks also discloses the target data items stored by user directly or

via a user profile, each section is compared against the target data items and a ranking

value is calculated fro each section dependent on the outcome of the comparisons

(Abstract). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teachings of Weeks, Fein and Kupiec to include the

correlation degree between the word and the user information. An advantage of Weeks'

invention is that it enables a summarizing tool to generate a summary of a data set that

includes target data items specified by a user for whom the summary is generated);

similarities among said each word and terms in titles of the documents (Fein, pages 2-3, paragraphs [0028]-[0039]);

a ratio of an occurrence number for said each word in a document to a total occurrence number for each said word in the set of document (Fein, pages 2-3, paragraphs [0028]-[0039] and Kupiec, Figs 1 and 5, col. 3, lines 1-17 and col. 4, line 63 – col. 5, line 14); and

a ratio of a number of documents including said each word to a number of documents in the set of documents (Kupiec, col. 3, line 26 – col. 4, line 24).

14.   As to claims 16 and 20, Fein-Kupiec-Weeks disclose wherein document discourse analysis comprises identifying titles, sections, lists, paragraph boundaries and sentence boundaries of the documents (Fein, page 2, paragraph [0028] – page 3, paragraph [0033]).

Response to Arguments

In the remarks, applicant(s) argued in substance that

A) Prior does not teach conducting discourse analysis or iteratively refining sentence and word scores until the sum of scores remains the same.

As to point A, Fein discloses the summarizer initially scores all of the sentences on the first iteration, then for the next iteration, the summarizer removes the highest ranking sentence and re-scores the remaining sentences as if the highest ranking sentence was not present, and then for the next iteration, the highest scoring sentence is removed and the remaining sentences are again re-scored as if the two highest ranking sentences were not present and this process continues for all of the sentences (page 5, paragraphs [0051]-[0059]).

15.   Applicant's arguments filed 03/09/2005 have been fully considered but they are not persuasive. Please see the rejection and response to arguments above.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37CFR 1.136(a).
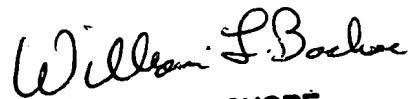
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau Nguyen whose telephone number is (571) 272-4092. The examiner can normally be reached on 8:00 am – 5:00 pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild, can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chau Nguyen
Patent Examiner
Art Unit 2176

WILLIAM BASHORE
PRIMARY EXAMINER

May 31, 2005